

Substitute for form 1449/PTO

**Complete if Known**

Application Number	10/772,013
Filing Date	February 3, 2004
First Named Inventor	John Santhoff
Art Unit	2611
Examiner Name	Sam K Ahn
Attorney Docket Number	00116



# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 6

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 5,278,862	01-11-1994	Timothy J. Vander Mey	
		US- 5,485,040	01-16-1996	Philip H. Sutterlin	
		US- 5,822,678	10-13-1998	Evanyk	
		US- 5,828,946	10-27-1998	Feisullin et al.	
		US- 5,832,035	11-03-1998	Fullerton	
		US- 5,835,054	11-10-1998	Warhus et al.	
		US- 5,896,556	04-20-1999	Moreland et al.	
		US- 5,960,031	09-28-1998	Fullerton et al.	
		US- 5,963,581	10-05-1999	Fullerton et al.	
		US- 5,944,842	08-31-1999	Propp et al.	
		US- 5,995,534	11-30-1999	Fullerton et al.	
		US- 6,140,911	10-31-2000	Fischer et al.	
		US- 6,218,979	04-17-2001	Barnes et al.	
		US- 6,275,045	08-14-2001	Eloy	
		US- 6,360,075	03-19-2002	Fischer et al.	
		US- 6,384,773	05-07-2002	Martin et al.	
		US- 6,430,208	08-06-2002	Fullerton et al.	
		US- 6,437,832	08-20-2002	Grabb et al.	
		US- 6,441,695	08-27-2002	Robert Flake	

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		WO 02/49245	06-20-2002	Pulse-LINK		
		WO 96/09694	03-28-1996	Fullerton et al.		
		EP 1414241	04-28-2004	Di Zenobio		

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		US- 6,492,897	12-10-2002	Richard A Mowery Jr.	
		US- 6,492,904	12-10-2002	Richards	
		US- 6,496,104	12-17-2002	Kline	
		US- 6,497,656	12-24-2002	Evans	
		US- 6,505,032	04-15-2003	Fullerton	
		US- 6,512,474	01-28-2003	Pergande	
		US- 6,515,622	02-04-2003	Izadpanah et al.	
		US- 6,529,166	03-04-2003	Kanamaluru	
		US- 6,539,068	03-25-2003	Hebron et al.	
		US- 6,611,223	08-26-2003	Low et al.	
		US- 6,678,321	01-13-2004	Graham et al	
		US- 6,690,247	02-10-2004	Kinitis et al.	
		US- 6,721,298	04-13-2004	Vella-Coleiro	
		US- 6,782,048	08-24-2004	John Santhoff	
		US- 6,847,267	01-25-2005	Robert Flake et al.	
		US- 6,865,256	03-08-2005	Descamps et al.	
		US- 6,909,877	06-21-2005	Rifheart et al.	
		US- 7,013,145	03-14-2006	Michael Centore III	
		US- 7,092,693	08-01-2006	Boyden et al.	

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		US- 7,167,525	01-01-2007	Santhoff et al.	
		US- 2001/0054953	12-27-2001	Paul A Kline	
		US- 2002/0024423	02-28-2002	Paul A Kline	
		US- 2002/0097821	07-25-2002	Hebron et al.	
		US- 2002/0116720	10-21-2003	Cloonan et al.	
		US- 2003/0031191	02-13-2003	El Wardani et al.	
		US- 2003/0129978	07-2003	Akiyama et al.	
		US- 2003/0228005	12-11-2003	Melick et al.	
		US- 2004/0125859	07-2004	Green et al.	
		US- 2004/0136438	07-15-2004	Fullerton et al.	
		US- 2004/0142663	07-2004	Richard D Roberts	
		US- 2004/0233972	11-25-2004	Karaoguz	
		US- 2004/0233973	11-25-2004	Fullerton et al.	
		US- 2004/174924	09-09-2004	Lakkis et al.	
		US- 2005/0047379	03-2005	Boyden et al.	
		US- 2005/0131922	06-2005	Kennedy et al.	
		US- 2005/069052	03-31-2005	Carbonari	
		US-			
		US-			

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NON PATENT LITERATURE DOCUMENTS			
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		ECHELON, "Powerline Communications", 05-16-19978, 50 pages.	
		POWERLINE COMMUNICATIONS, "Powerline Coexistence", White paper, 03-2001, 12 pages.	
		DAN RAPHAELI & EVGENI BASSIN, "A Comparison between OFDM, Single Carrier, and Spread Spectrum for High Data Rate PLC", 04-1999, White paper, 6 pages.	
		MATTHEW WELBORN, "An M-ary Bi-Orthogonal Ultrawideband Communications System", Provisional Application 60/357,638,2/20/2002, pages 1-40.	
		GO HARA, YOSHIHIRO HASE, SHINGO OOMORI, FUJINOBU TAKAHASHI & RYUJI KOHNO, "Foundation Study on the Application of UWB Impulse Radio to ROF", 2002 Society of Electronics, Information and Communication Engineers General Conference, March 27-30, 2002, 2 pages.	
		WIN MOE Z et al., "Ultra-Wide Bandwidth Time-Hopping Spread-Spectrum Impulse Radio for Wireless Multiple-Access Communications", April 2000.	
		STEPHEN GROSSMAN, Existing In-Home Coax Can Support Data Comm, Electronic Design, March 5, 2001, 3 pgs	
		AUTOMATION SECURITIES AND TECHNOLOGY, homeautomation.net, 5 pgs	
		KEN DAVIDSON, CEBus Goes Coax, The Computer Applications Journal, February/March 1992, 3 pgs, Issue 25	
		JULIE JACOBSON, Coax Gaining Favor for In-Home Networks, Home Networking News, June 2002, 5 pgs	

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**NON PATENT LITERATURE DOCUMENTS**

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		BUSINESS WIRE, Entropic to Detail 270Mbps Home Networking Over COax at Communications Design Conference Wednesday, March 31, March 30, 2004, 2 pgs	
		ENTROPIC COMMUNICATIONS, Core Technology Description, entropic-communications.com, 2 pgs	
		JULIE JACOBSON, Coax Gets Consortium of its Own, Home Networking News, May 2001, 2 pgs	
		NOAM GERI, Hybrid Coax-Wireless Multimedia Home Networks Using 802.11 Technology, Texas Instruments White Paper, March 2003, 7 pgs	
		COAXSYS, 10/100 Ethernet Products, coaxsys.com, 2pgs	
		PRNEWswire, True Plug & Play Home Multimedia Network Debuts at NCTA, Silicon Strategies, May 4, 2004, 3 pgs	
		YUE GUANG-RONG & GE L I-JIA, "Summaries of Ultra-Widebandwidth Radio", Journal of PLA University of Science and Technology, Volume 3 Number 2, April 2002, 6 pages.	
		China Academic Journal Electronic Publishing House, CATV AND NETWORK, 2001, 3 pages.	
		"CRAMER, J.M.; et al., ""On the analysis of UWB communication channels"", Military Communications Conference Proceedings, 1999. MILCOM 1999. IEEE Volume 2, 31 Oct.-3 Nov. 1999 Page(s):1191 - 1195 vol. 2"	
		SCHUTT-AINE, J.E., "High-frequency characterization of twisted-pair cables", Communications, IEEE Transactions on Volume 49, Issue 4, April 2001 Page(s):598 - 601.	

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		"KAVEHRAD, M., et al. ""10 Gbps transmission over standard category-5 copper cable""", Global Telecommunications Conference, 2003. GLOBECOM ""03. IEEE Volume 7, 1-5 Dec. 2003 Page(s):4106 - 4110 vol.7"	
		WIN, M.Z.; SCHOLTZ, R.A., "Impulse radio: how it works", Communications Letters, IEEE, Volume 2, Issue 2, Feb. 1998 Page(s):36-38	
		SIWIAK K. et al., "Ultra-wide band radio: the emergence of an important new technology", Vehicular Technology Conference, 2001. VTC 2001 Spring. IEEE VTS 53rd, Volume 2, 6-9 May 2001 Page(s):1169 -1172 vol.2	
		ENGLER, H.F. JR., "Advanced technologies for ultra wideband system design", Electromagnetic Compatibility, 1993. Symposium Record. 1993 IEEE International Symposium on 9-13 Aug. 1993 Page(s):250 - 253 vol.2	
		Belden Cable, Detailed Specifications & Technical Data Category 5E and 6 twisted pair cable, 5 pages	
		SIWIAK, "Ultra-wide band radio: introducing a new technology", Vehicular Technology Conference, 2001. VTC 2001 Spring. IEEE VTS 53rd Volume 2, 6-9 May 2001 Page(s):1088 -1093 vol.2	
		MITCHELL, Broad is the way [ultra-wideband technology]; IEEE Review Volume 47, Issue 1, Jan 2001 Page(s):35-39	
		BRUNO PATTAN, "A Brief Exposure to Ultra-Wideband Signaling", Microwave Journal, December 2003, 5 pages.	
		DAVID LEEPER, "Wireless Data Blaster", Scientific American, May 2002, pages 64-69	

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